



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1997-0798

July 11, 1997

Mr. Hank D. Honeywell
Federal Highway Administration
Oregon Division
The Equitable Center, Suite 100
530 Center Street NE
Salem, Oregon 97301

Re: Biological Opinion on the Dillard Truss Bridge
Replacement Project on the South Umpqua River, Douglas
County, Oregon

Dear Mr. Honeywell:

Enclosed is the National Marine Fisheries Service's (NMFS) biological opinion on the Dillard Truss Bridge replacement project in Douglas County near Dillard, Oregon. This opinion addresses Umpqua River cutthroat trout, listed as endangered, and Oregon Coast steelhead, proposed for listing as threatened. This opinion constitutes formal consultation for Umpqua River cutthroat trout and a formal conference for Oregon Coast steelhead. The NMFS has determined that the subject action is not likely to jeopardize the continued existence of these species.

Sincerely,

William Stelle, Jr.
Regional Administrator

Enclosure

cc: E. Chang (FHWA)
C. Sheridan (ODOT)



Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

Dillard Truss Bridge
South Umpqua River

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: July 11, 1997

Refer to: OSB1997-0798

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ATTACHMENT 1	Biological requirements and status under 1996 environmental baseline: Umpqua River cutthroat trout, Oregon Coast coho salmon, Southern Oregon/Northern California coho salmon, Oregon Coast steelhead, Klamath Mountain Province steelhead, and chum salmon

ATTACHMENT 2 Application of Endangered Species Act Standards to Umpqua River cutthroat trout, Oregon Coast coho salmon, Southern Oregon/Northern California coho salmon, Oregon Coast steelhead, Klamath Mountain Province steelhead, Lower Columbia steelhead, chum salmon, chinook salmon, and sea-run cutthroat trout

I. Background

On February 24, 1997, the National Marine Fisheries Service (NMFS) received from the Federal Highway Administration a biological assessment (BA) and letter requesting Endangered Species Act (ESA) section 7 consultation for replacement of the Dillard Truss Bridge on the South Umpqua River. The lead agency and project proponent for the proposed action is the Oregon Department of Transportation (ODOT). ODOT is the designated non-Federal representative for transportation related actions in Oregon supported by funds from the Federal Highway Administration. Species considered in the BA are Umpqua River cutthroat trout (*Oncorhynchus clarki clarki*), listed as endangered (61 FR 41514; August 9, 1996); Oregon Coast steelhead (*Oncorhynchus mykiss irideus*), proposed for listing as threatened (61 FR 41541; August 9, 1996); and Oregon Coast coho salmon (*Oncorhynchus kisutch*), proposed for listing as threatened (60 FR 38011; July 25, 1995). NMFS has determined that the Oregon Coast coho salmon Evolutionarily Significant Unit (ESU) does not warrant listing at this time (62 FR 24588; May 6, 1997) but will maintain a candidate status under the ESA. NMFS will review its listing status in 3 years (or earlier if warranted by new information). The Oregon Coast coho salmon ESU is considered in this opinion.

The objective of this opinion is to determine whether the proposed replacement of Dillard Truss Bridge is likely to jeopardize the continued existence of Umpqua River cutthroat trout (UR cutthroat trout), Oregon Coast steelhead (OC steelhead), and Oregon Coast coho salmon (OC coho salmon). While this opinion evaluates effects of the proposed action on Pacific salmonid habitat, critical habitat has not been proposed or designated for these species and therefore conclusions regarding destruction or adverse modification of critical habitat are not included in this opinion.

II. Proposed Action

The existing bridge crosses the South Umpqua River at stream mile 141.5 in Douglas County on State Highway 99, 2.5 miles south of Dillard, Oregon. The proposed action is to replace the existing bridge with a new bridge in the same location. A temporary detour bridge would be constructed roughly 100 feet upstream of the existing structure. In general, the proposed action would entail construction of two access berms in the river channel; development of staging areas; removal of existing bridge and bents; construction and removal of four temporary supports inside the ordinary high water mark; construction of two intermediate bents; placement of riprap; and construction of the bridge superstructure, decking and approaches. In-water work would occur from July 1 to October 31 of any calendar year.

Staging Areas. Staging areas for material and equipment would be established at the northeastern, northwestern and southwestern sides of the existing bridge. Roughly 39,339 square feet of vegetation would be removed and access roads would be constructed on the northwestern and southwestern sides of the bridge. Heavy equipment would operate in the staging areas.

Temporary Detour Bridge. The detour bridge would be roughly 395 feet long supported by six temporary bents. Each bent would require three to four piers. Approximately 6,725 square feet of riparian area, consisting mostly of Himalayan blackberry and some cottonwood and bigleaf maple, would be cleared on both sides of the river for approaches and bridge placement. Both construction and removal of the detour structure would be accomplished from the stream bank. Some pile drilling would occur in the active flowing channel. The detour bridge would be removed after completion of the new bridge.

Access Berms. The proposed access berms would be constructed of clean bar run material and extend roughly 98 feet from the right bank and 131 feet from the left bank. The berms would leave a minimum channel opening of 98 feet. Total amount of material (3- to 6-inch diameter rock) would be approximately 9,286 cubic yards. The berm material would be removed and stored prior to winter high flows to prevent excessive loss prior to completion of work and reinstalled at the beginning of the following years in-water work period.

New Bridge Construction. The existing bridge and associated supports would be removed and the new bridge constructed. Work would be accomplished from the stream banks and access berms. Four bents would be constructed to support the new structure. Two bents would be placed outside of the ordinary high water mark (OHW) at the top of the stream banks, and two bents would be placed at the edge of the main channel below OHW. The two inside bents would be aligned parallel to flow.

III. Biological Information and Critical Habitat

The listing status, biological information, and critical habitat elements for U R cutthroat trout, OC steelhead, and OC coho salmon are described in Attachment 1. While critical habitat has not been designated or proposed, the attachment describes potential critical habitat elements for these ESUs.

IV. Evaluating Proposed Actions

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by 50 C.F.R. Part 402 (the consultation regulations). Attachment 2 describes how NMFS applies the ESA jeopardy standards to consultations on Federal actions.

As described in Attachment 2, the first steps in applying the ESA jeopardy standards are to define the biological requirements of the ESU and to describe the listed species' current status as reflected by the environmental baseline. In the next steps, NMFS' jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species' biological requirements and the existing conditions under the environmental baseline (defined in Attachment 1). The analysis takes into consideration an overall

picture of the beneficial and detrimental activities taking place within the action area. If the cumulative actions are found to jeopardize the listed species then NMFS must identify any reasonable and prudent alternatives to the proposed action.

A. Biological Requirements

For this consultation, NMFS finds that the biological requirements of the listed and proposed ESUs are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the ESUs. Individual environmental factors include water quality, habitat access, physical habitat elements, and channel condition. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are also necessary for the survival and recovery of the listed and proposed ESUs. This information is summarized in Attachment 1.

B. Environmental Baseline

Current range-wide status of ESUs under environmental baseline. NMFS described the current population status of the Umpqua River cutthroat trout ESU in its status review (Johnson *et al.*, 1994) and in the final rule (August 9, 1996, 61 FR 41514). The fish counts at Winchester Dam on the North Fork Umpqua River provide the best quantitative source of information on cutthroat trout abundance in the Umpqua River Basin (see Attachment 1, Table 1). However, for the purposes of this biological opinion, it is difficult to determine the population status for the environmental baseline assessment of the entire ESU based only on Winchester Dam fish counts because this dam is located on the North Umpqua River but the ESU occupies the entire Umpqua Basin. In the absence of adequate population data, habitat condition provides a means of evaluating the status of Umpqua River cutthroat trout for the environmental baseline assessment, as explained in Attachment 1.

The range-wide status of OC steelhead was determined in Busby *et al.* (1996). The recent range-wide status of these species is summarized in Attachment 1. In the absence of adequate population data, habitat condition provides a means of evaluating the status of these species for the environmental baseline assessment.

The current range-wide status of OC coho salmon is described in Weitkamp *et al.* (1995) and summarized in Attachment 1. In general, current spawning escapements have declined to less than 5 percent of abundance in the early 1900's and recent average spawner-to-spawner ratios are below replacement. However, an increasing trend in natural escapement has occurred in recent years. NMFS' Biological Review Team generally agreed that the harvest and hatchery reforms under the Oregon Coastal Salmon Restoration Initiative (OSCRI) may reduce the short term risk of extinction but determined that habitat protection and restoration are key to long-term survival of this ESU. NMFS concluded that the OC coho salmon is not likely to become endangered based on habitat protection

measures under the Northwest Forest Plan and the OCSRI, and the recent increasing trend in natural escapement.

Current status of listed/proposed ESUs under environmental baseline within the action area. The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR 402.02). The general action area can be defined as the immediate project site and areas downstream to the South Umpqua River’s confluence with the North Umpqua River. The immediate action area includes the South Umpqua River between stream miles 141 and 142.

The lower South Umpqua River is a low-gradient, meandering channel that flows through both agricultural and residential lands. Riparian cover is sparse and water temperatures in the summer can exceed 70 degrees Fahrenheit. The immediate action area does not contain any large substrate or large wood and therefore provides little cover for adult holding or juvenile rearing. Neither UR cutthroat trout, OC steelhead, or OC coho spawn or rear in the immediate action area but use this area as a migratory corridor.

Based on the best information available on the current status of the proposed/listed ESUs rangewide (Attachment 1) and within the action area, the information available regarding population status, population trends, and genetics (see Attachment 2), and the poor environmental baseline conditions within the action area, NMFS concludes that not all of the biological requirements of the proposed and listed ESUs within the action area are currently being met under the environmental baseline. Thus, actions that do not retard attainment of properly functioning aquatic conditions when added to the environmental baseline would not jeopardize the continued existence of anadromous salmonids (i.e. actions that permanently degrade anadromous salmonid habitat would jeopardize the continued existence of these species).

V. Analysis of Effects

A. Effects of Proposed Action

The effects determination in this opinion were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of actions on them. This process is described in the document “Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996). This assessment method was designed for the purpose of providing adequate information in a tabular form for NMFS to determine the effects of actions subject to consultation. The effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on each of 15 aquatic habitat factors in the project area. The results of the completed checklist for the proposed action provides a basis for determining the overall effects on the environmental baseline in the action area. The action covered in this opinion was shown to maintain

environmental factors over the long-term (more than one year) that could potentially be affected by the proposed project (see Table 1 below).

Sediment inputs are likely to result from the proposed action due to in-water work but are expected to be temporary and localized. State regulations require that turbidity not exceed 10 percent above background for more than two hours. A number of measures would be implemented to reduce sedimentation. These measures include in-water work during lowest flows; staked straw bales, sediment fencing, and construction of settling basins down slope of work areas; straw bales or sediment bags would be placed around the periphery of the access berms; and all sediment laden water would be filtered prior to discharge to the river. All control devices would be inspected daily during periods of precipitation and weekly during dry periods.

Hazardous material storage, refueling areas and maintenance areas would be located no closer than 100 feet to the river. External grease and oil would be removed from equipment used for in-water work prior to use within the two-year flood plain. A Pollution Control Plan (including a spill response plan) would be developed.

Following completion of the action, all areas cleared by construction activities would be recontoured and seeded to reduce erosion. Native tree (including conifers) and shrub species would be planted. Riprapped areas below the 10-year flood plain would be planted with live stakes of native shrubs at a density of 4,900 stakes per acre. Monitoring would occur to ensure planting success.

Table 1. Summary checklist of environmental baseline and effects of the Dillard Truss Bridge replacement on relevant indicators.

ENVIRONMENTAL BASELINE				EFFECTS OF THE ACTION(S)		
PATHWAYS:						
INDICATORS	Properly ¹ Functioning	At Risk ¹	Not Propr. ¹ Functioning	Restore ¹	Maintain ¹	Degrade ¹
<u>Water Quality:</u>						
Temperature			X		X	
Sediment		X			X	
Chem. Contam./Nutr.			X		X	
<u>Habitat Access:</u>						
Physical Barriers	X				X	
<u>Habitat Elements:</u>						
Substrate		X			X	
Large Woody Debris			X		X	
Pool Frequency		unknown			X	
Pool Quality		X			X	
Off-channel Habitat			X		X	
Refugia			X		X	
<u>Channel Conditions:</u>						
Width/Depth Ratio		X			X	
Streambank Cond.		X			X	
Floodplain		X			X	
<u>Connectivity</u>						
<u>Flow Hydrology:</u>						
Peak/Base Flows		unknown			X	
Drainage Network			X		X	

¹ These three categories of function (“properly functioning”, “at risk”, and “not properly functioning”) and the three effects (“restore”, “maintain”, and “degrade”) are defined for each indicator in NMFS (1996).

Adult UR cutthroat trout, adult OC steelhead, and adult OC coho salmon could be present in the action area during in-water construction activities. Construction noise and vibration have the potential to cause delay of adults from moving upstream to spawning areas. Construction would not occur at night providing adults an opportunity to move upstream should they choose not to migrate through the action area during construction activities. Typically, juvenile UR cutthroat trout, juvenile OC steelhead, and juvenile OC coho salmon migrate to the ocean between March and June, prior to the in-water work period. High summer water temperatures and lack of cover would likely preclude the presence of rearing juveniles during the in-water construction period.

With implementation of erosion control measures and replanting of vegetation, it is expected that the existing environmental baseline would be maintained over the long-term. However, short-lived adverse effects such as temporary increases in sediment and disturbance from heavy equipment operation and pile drilling in the channel have the potential to result in incidental take.

B. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." For the purposes of this analysis, the action area encompasses the project site on the South Umpqua River downstream to its confluence with the North Umpqua River. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. In addition, non-Federal actions that require authorization under section 10 of the ESA will be evaluated in section 7 consultations. Therefore, these actions are not considered cumulative to the proposed action. NMFS is not aware of any future new (or changes to existing) State and private activities within the action area that would cause greater impacts to listed species than presently occurs. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

VI. Conclusion

NMFS has determined that, based on the available information, the proposed Dillard Truss Bridge replacement project is not likely to jeopardize the continued existence of UR cutthroat trout, OC steelhead, or OC coho salmon. NMFS used the best available scientific and commercial data to apply its jeopardy analysis (described in Attachment 2), when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline (described in Attachment 1), together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, and possibly cause direct incidental take from in-water construction noise and vibration. Direct mortality from in-water construction activities is not

expected to occur. Heavy equipment would operate from the stream banks, access berms and bridge decking. It is unlikely that juvenile UR cutthroat, juvenile OC steelhead, and juvenile OC coho salmon would be present in the immediate action area during the in-water construction period.

Therefore, the effects of the proposed action would not reduce prespawning survival, egg-to-smolt survival, or upstream/downstream migration survival rates to a level that would appreciably diminish the likelihood of survival and recovery of these species.

VIII. Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NMFS finds that the general minimization/avoidance measures and site specific measures, as described in the BA, are sufficient and therefore we do not recommend any further conservation measures at this time.

IX. Reinitiation of Consultation

Consultation must be reinitiated if: the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

X. References

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261p.

Johnson, O.W., R.S. Waples, T.C. Wainwright, K.G. Neely, F.W. Waknitz, and L.T. Parker. 1994. Status review for Oregon's Umpqua River sea-run cutthroat trout. U.S. Dept. of Commer., NOAA Tech. Memo. NMFS-NWFSC-15, 122p.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

Weitkamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dep. of Commer. NOAA Tech. Memo. NMFS-NWFSC-24, 258p.

XI. Incidental Take Statement

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Biological Opinion has more than a negligible likelihood of resulting in incidental take of UR cutthroat trout, OC steelhead, and OC coho salmon because of detrimental effects from increased sediment levels and the potential for direct incidental take during in-water work. Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Biological Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in

the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Biological Opinion.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measure(s) are necessary and appropriate to minimizing take of UR cutthroat trout and OC steelhead.

1. The ODOT shall minimize the potential for direct incidental take of UR cutthroat trout, OC steelhead, OC coho salmon due to sedimentation and operation of heavy equipment.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

- 1a. All site specific erosion control measures listed in the BA for the Dillard Truss Bridge replacement project shall be implemented.
- 1b. All work within the active flowing channel (in-water work) shall occur between July 1 and October 31.
- 1c. Fish passage around the action area shall be maintained at all times.
- 1d. Replace as much riparian vegetation at the project site as is practicable.